

ADELOTHECIACEAE

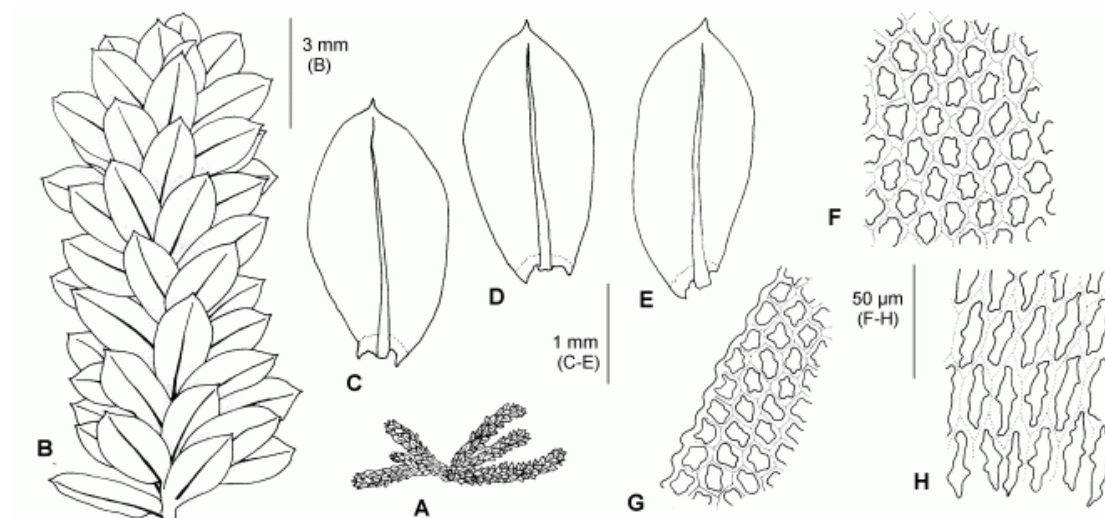
(M.J. Wigginton)

A monogeneric family in the Hookeriales.

Adelothecium Mitt.

A monospecific genus. The single species, *A. bogotense* (Hampe) Mitt., is apparently very rare in Africa, and currently known only from Tanzania and Madagascar. It is, however, rather widespread in the montane regions of the neotropics.

Plants medium-sized to robust, dull to slightly glossy, in dense, light green, yellowish, golden to brownish mats, sub-pendent. **Primary stems** short, creeping, the lower part densely covered with a tomentum of smooth, brown, branched rhizoids. **Secondary stems** and branches spreading, often horizontally on twigs and branches; leafy shoots complanate, to 7--8 mm wide. Stems in transverse section with 3--4 rows of very thick-walled cortical cells with tiny lumens surrounding large, thick-walled medullary cells; central strand absent. **Stem leaves** complanate, in 8 ranks, shrunken and often curved downwards when dry, margins plane; costa single, strong, (70--100--150--200) μm wide at base, gradually tapering, ceasing below apex; dorsal and ventral leaves 2.2--3.5 mm long, symmetrical, broadly ovate to obovate, abruptly narrowed to a short triangular apiculus, shortly decurrent; lateral leaves 3--4 mm long, somewhat asymmetric and undulate, broadly oval to obovate, apex rounded and apiculate, slightly decurrent, crenulate-dentate; **branch leaves** smaller, gradually attenuated distally, leaves reduced in size; **leaf cells** thick-walled; apical cells linear-fusiform, porose; median cells stellate, smooth to bulging; basal cells fusiform to irregularly rectangular and porose, golden brown; marginal cells narrow and smaller. **Gemmae** short-cylindrical to clavate, ca 40--70 μm long, on axillary stalks of highly reduced leaves (on microphyllous branchlets). Gametangia unknown in African material, but in neotropical collections: **Dioicous**. **Sporophytes** lateral; perichaetial leaves elongate, ovate-lanceolate or -subulate. **Seta** erect, short, ca 2 mm long, smooth to weakly papillose. **Capsule** erect, urn ovoid. **Operculum** rostrate. **Peristome** double, exostome teeth 16, cross-striate, appearing furrowed with a hyaline border; endostome basal membrane low, segments 16, keeled and perforate, cilia absent. **Calyptra** mitrate, base weakly lobed, densely covered by long capillary hairs, plicate. **Spores** spherical, papillose-granulose.



Adelothecium bogotense (Hampe) Mitt. A: habit. B: portion of shoot. C-E: leaves. F: median cells. G: marginal cells near apex of leaf. H: cells near leaf base.

HABITAT. Epiphytic, on the twigs and branches of trees (including *Podocarpus milanjanus*), and on shrubs, in montane forest; 1200--1330 in Madagascar, and 2250--2300 m in Tanzania.

DISCUSSION. *A. bogotense* is a large and handsome moss characterised by 1) complanate, often horizontally-spreading shoots, 2) obovate leaves with single strong costa, 3) stellate, porose leaf cells, 4) often microphyllous, gemmiferous branch tips. These features should separate this taxon from all other montane epiphytes. Sporophytes are not known from Africa and are exceedingly rare in the neotropics, and reproduction must be mostly by gemmae. The relationships of this taxon within the Hookeriales is debated.

REFERENCES. **Buck, W.R. 1998.** Pleurocarpous mosses of the West Indies. Bronx: New York Botanical Garden. **Demaret, F. 1955.** Étude préliminaire des Hookeriaceae africaines intertropicale. Bulletin du Jardin Botanique de l'Etat à Bruxelles 25: 375-390. **Ochyra, R., Bednarek-Ochyra, H., Pócs, T., & Crosby, M.R. 1992.** The moss *Adelothecium bogotense* in continental Africa, with a review of its world range. Bryologist 95: 287-295. **Whittemore, A. & Allen, B. 1989.** The systematic position of *Adelothecium* Mitt. and the familial classification of the Hookeriales (Musci). Bryologist 92: 261-272.

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19 Aug 2006

Received 20.08.06
Uploaded to GBA 21.08.06